

### **ABSTRACT OF THE DISCLOSURE**

Printing inks and pastes are disclosed that comprise of nanofillers with domain size less than 100 nanometers thereby exhibiting quantum confinement effects. The printing formulations comprise of nanowhiskers, nanorods, fibers, plates and powders. These printing formulations are useful for preparing nanoelectronics, electrodes and nanotechnology-enabled devices and products. The nanofillers composition taught include inorganic, metallic, organic, oxides, borides, nitrides, carbides, halides, sulfides, alloys and chalcogenides.